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PUBLICATIONS

1. Hey, R.N., K.S. Deffeyes, G.L. Johnson, and A. Lowrie, The Galapagos triple junction and plate motions in the East Pacific, *Nature*, 237, 20-22, 1972.
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ABSTRACTS

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152. Martinez, F., R. Hey, (2016) Reykjanes Ridge Evolution: Plate Boundary Processes vs. Mantle Plume Flow, North Atlantic 2016 Workshop, Durham University, UK, <http://www.mantleplumes.org/NAWorkshop/NAWorkshop.html>
153. Martinez, F., R. Hey, (2016) Formation and Elimination of Segmentation on the Reykjanes Ridge, *AGU Fall Meeting*, San Francisco, CA, Abstract T33A-3006.
154. A Hoskuldsson, R Hey, F Martinez, S Thordarson, A Benediktsdottir, From the Icelandic continental shelf to the deep abyss; a tale of divergent plate boundary, Geophysical Research Abstracts 19, European Geosciences Union General Assembly, Vienna, Austria, Abstract EGU2017-8076
155. Á Benediktsdóttir, R Hey, F Martinez, Á Höskulddson, Asymmetric seafloor spreading on the Reykjanes Ridge-influence of the Iceland anomaly?, Geophysical Research Abstracts 19, European Geosciences Union General Assembly, Vienna, Austria, Abstract EGU2017-13115-1
156. F Martinez, R Hey (2017) [Formation and Elimination of Transform Faults on the Reykjanes Ridge](#), Geophysical Research Abstracts 19, European Geosciences Union General Assembly, Vienna, Austria, Abstract EGU2017-5790

FUNDING RECORD

- 30) Test Between Thermal and Tectonic Hypotheses for North Atlantic Seafloor Spreading Geometry Reorganization

Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE- 1154071
 Duration: 09/01/12-08/31/17
 Total Funding: \$450,191 (+ 37 days shiptime)

- 29) Investigation of Reykjanes Ridge Evolution near Iceland

Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-0452132
 Duration: 09/15/06-08/31/11
 Total Funding: \$373,394 (+ 34 days shiptime)

- 28) Collaborative Research: Detailed Analysis of High-Resolution Morphological Data and Water-Column Hydrothermal Measurements along Earth's Fastest Spreading Center, EPR 27-32°S

Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-0520833
 Duration: 10/01/05-09/30/09
 Total Funding: \$56,839

- 27) Structure and Composition of Fast Spread EPR Crust Exposed at Pito Deep

Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-0221064
 Duration: 2/15/04-1/31/09
 Total Funding: \$86,016 (Hawaii share of major ALVIN/ROV expedition led by Jeff Karson, Duke)

- 26) Collaborative Research: SGER-Pilot Study of Vestmannaeyjar Using High-Resolution Seismic Reflection

Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-0329308
 Total Funding: \$19,191
 Funding Period: 6/1/03-5/31/04

- 25) Hydrothermal and Structural Investigations Along the Fastest Spreading Center: The 28°-32°S EPR Reorganizing Plate Boundary (Renewal)

- Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-9906896
 Total Funding: \$147,718
 Funding Period: 12/1/99-11/30/02
- 24) Hydrothermal and Structural Investigations Along the Fastest Spreading Center: The 28°-32°S EPR Reorganizing Plate Boundary
- Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-9529737
 Total Funding: \$415,227 (+ 40 days shiptime)
 Funding Period: 12/1/96-11/30/98
- 23) GLORIA Investigation of the Fastest Spreading Segment of the Global Seafloor Spreading System (Renewal)
- Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-9503624
 Total Funding: \$130,000
 Funding Period: 8/15/95-8/14/97
- 22) Propagating Rifts and Spreading Centers into Continents: The Woodlark Basin (Renewal)
- Principal Investigators: B. Taylor, R.N. Hey, and F. Martinez
 Funding Source: National Science Foundation
 Grant Number: OCE-9503505
 Total Funding: \$158,474
 Funding Period: 07/01/95 - 12/31/96
- 21) Propagating Rifts and Spreading Centers into Continents: The Woodlark Basin
- Principal Investigators: B. Taylor, R.N. Hey, and F. Martinez
 Funding Source: National Science Foundation
 Grant Number: OCE-9201691
 Total Funding: \$696,960 (+ 37 days shiptime)
 Funding Period: 1/1/93 - 12/31/96
- 20) GLORIA Investigation of the Fastest Spreading Segment of the Global Seafloor Spreading System
- Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-9101341

- Total Funding: \$521,489 (+ 39 days shiptime)
 Funding Period: 12/15/92 - 05/31/96
- 19) GLORIA and Geochemical Investigation of the Easter Seamount Chain
- Principal Investigators: R. Batiza and R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-9214496
 Total Funding: \$54,138 (+ 59 days shiptime) (UH share of \$700K grant we were co-l's on)
 Funding Period: 1/1/93 - 12/31/94
- 18) Submersible Magnetometer Investigation of Easter Microplate Rotation and Deformation
- Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE-9202271
 Total Funding: \$29,024
 Funding Period: 05/01/92 - 04/30/94
- 17) ABR: SeaMARC II Investigation of the Easter Microplate
- Principal Investigator: R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE90-19127
 Total Funding: \$45,329
 Funding Period: 3/1/91 - 8/31/92
- 16) SeaMARC II Investigation of the Easter Microplate
- Principal Investigators: R.N. Hey and D.M. Hussong
 Funding Source: National Science Foundation
 Grant Number: OCE86-10412
 Total Funding: \$423,000 (+ 32 days shiptime)
 Funding Period: 3/1/87 - 8/31/90
- 15) Detailed Tectonic Evolution of the Seafloor Offshore Western North America
- Principal Investigator: R. N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE87-01781
 Total Funding: \$118,732
 Funding Period: 1/1/87 - 6/30/89
- 14) Galapagos Rift System: Tectonic and Geophysical Studies Using ALVIN

- Principal Investigators: R.N. Hey and J.M. Sinton
 Funding Source: National Science Foundation
 Grant Number: OCE83-15364
 Total Funding: \$446,701 (+31 days shiptime and 20 dives)
 Funding Period: 3/1/85 - 2/28/88
- 13) Seafloor Spreading in the Northeast Pacific: Early Tertiary Lithospheric Plate Reorganization
- Principal Investigators: H.W. Menard and R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE83-15366
 Total Funding: \$243,802 (+ 30 days shiptime)
 Funding Period: 1/1/84 - 10/31/87
- 12) Seismicity and Structure of the Galapagos Propagating Rift
- Principal Investigators: J.A. Orcutt, R.N. Hey, and J. Phipps Morgan
 Funding Source: National Science Foundation
 Grant Number: OCE86-14605
 Total Funding: \$288,826 (+ 63 days shiptime)
 Funding Period: 2/15/87 - 2/14/88
- 11) Modelling Seafloor Structural Patterns
- Principal Investigator: R. N. Hey
 Funding Source: Office of Naval Research
 Grant Number: ONR USN N00014-85-C-0104
 Total Funding: \$97,085
 Funding Period: 10/1/84 - 9/30/86
- 10) Tectonic Evolution of the Easter Microplate/Propagating Rift System
- Principal Investigator: R. N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE82-15396
 Total Funding: \$225,700 (+ 34 days shiptime)
 Funding Period: 3/1/83 - 5/31/86
- 9) SeaMARC II Investigation of the Galapagos 95.5°W Propagator
- Principal Investigators: F.K. Duennebier, J.M. Sinton, and R.N. Hey
 Funding Source: National Science Foundation
 Grant Number: OCE84-08808
 Total Funding: \$73,130 (+ 10 days shiptime)
 Funding Period: 8/1/84 - 6/30/85

8) Plate Motions and Deformations from Geologic and Geodetic Data

Principal Investigators: T.H. Jordan and R.N. Hey
 Funding Source: National Aeronautics and Space Administration
 Grant Number: NASA NAS5-27234
 Total Funding: \$97,000
 Funding Period: 6/1/82 - 5/31/84

7) High-Resolution Study of Propagating Rifts

Principal Investigators: R.N. Hey and F.N. Spiess
 Funding Source: National Science Foundation
 Grant Number: OCE81-09927
 Total Funding: \$405,945 (+ 42 days shiptime)
 Funding Period: 8/1/81 - 7/31/84

6) Investigation of Rift Propagation and Plate Tectonics

Principal Investigator: R.N. Hey
 Funding Source: Office of Naval Research
 Grant Number: N00014-80-C-0440
 Total Funding: \$270,220
 Funding Period: 5/1/81 - 9/30/84

5) Synthesis of Geological, Geophysical Data Over the Galapagos Spreading Center (Area VIII-4)

Principal Investigator: R. N. Hey
 Funding Source: Joint Oceanographic Institutions, Inc.
 Grant Number: Subcontract No. 35-81
 Total Funding: \$35,404
 Funding Period: 1/1/81 - 12/31/81

4) Galapagos Rift System: Test of Propagating Rift Model

Principal Investigators: R. N. Hey, J. M. Sinton, J. A. Philpotts, and F. K. Duennebier
 Funding Source: National Science Foundation
 Grant Number: OCE78-19816
 Total Funding: \$437,010 (+ 71 days shiptime)
 Funding Period: 2/1/79 - 7/31/81

3) Marine Magnetics Program

Principal Investigator: R. N. Hey
 Funding Source: Office of Naval Research

Grant Number: N00014-75-C-0209-P09
Total Funding: \$160,360
Funding Period: 12/1/77 - 2/28/81

2) Investigation of Magnetic Anomalies Associated with Spreading Center Jumps

Principal Investigator: R. N. Hey
Funding Source: National Science Foundation
Grant Number: OCE76-21966
Total Funding: \$57,600
Funding Period: 9/1/76 - 5/31/80

1) An Investigation of the Nazca Lithospheric Plate and its Interaction with the South American Continental Block: Subtask: Marine Magnetism and Plate Tectonics

Principal Investigator: R. N. Hey
Funding Source: National Science Foundation
Grant Number: GX-28674
Total Funding: \$20,654
Funding Period: 1/1/76 - 12/31/76

Scientific Expeditions

1970 May-June, Pacific-Cocos-Nazca triple junction survey, Panama-Panama, Princeton University/U.S. Navy, chief scientist K.S. Deffeyes, USNS DE STEIGUER.

1974 January-February, Africa-Antarctica spreading center survey near Bouvet Island, Cape Town-Cape Town, MIT/Woods Hole Oceanographic Institution, chief scientist C. Bowin, R/V CHAIN.

1974 February-March, South America-Africa-Antarctica triple junction survey, Cape Town-Cape Town, MIT/Woods Hole Oceanographic Institution, chief scientist J.G. Sclater, R/V CHAIN.

1974 October, Gulf of Mexico multichannel seismic survey, Veracruz-Galveston, University of Texas Marine Science Institute, Chief scientist J. Watkins, R/V IDA GREEN.

**1975 March, student training cruise, Gulf of Mexico, Galveston-Galveston, University of Texas Marine Science Institute, chief scientist R.N. Hey, R/V IDA GREEN.

1976 February-March, Mariana trench IPOD site survey, Guam-Guam, Hawaii Institute of Geophysics, chief scientist D.M. Hussong, R/V KANA KEOKI.

1976 March, Mariana trench-Ontong Java plateau survey, Guam-Honiara, Guadalcanal, Hawaii Institute of Geophysics, chief scientist D.M. Hussong, R/V KANA KEOKI.

1976 April, Central Pacific basin transect, Honiara, Guadalcanal-Honolulu, Hawaii Institute of Geophysics, chief scientist S.R. Hammond, R/V KANA KEOKI.

**1976 October, IPOD Pac #6 survey, Honolulu-Honolulu, Hawaii Institute of Geophysics, chief scientist R.N. Hey, R/V KANA KEOKI.

**1979 March-May, Investigations of propagating rifts west of the Galapagos Islands, Acapulco-Santa Cruz, Galapagos, Hawaii Institute of Geophysics, chief scientist R.N. Hey, R/V KANA KEOKI.

**1979 May, Galapagos Islands rock sampling cruise, Santa Cruz-Santa Cruz, Galapagos, Hawaii Institute of Geophysics/Darwin Research Station, chief scientist R.N. Hey, Barco SAN JUAN.

**1979 May-June, Investigations of propagating rifts east of the Galapagos Islands, Puerto San Jose, Guatemala-Santa Cruz, Galapagos, Hawaii Institute of Geophysics, chief scientist R.N. Hey, R/V KANA KEOKI.

1980 October, Search for RUWS (remote unmanned work station) using ANGUS, Honolulu-Kona, Woods Hole Oceanographic Institution/Hawaii Institute of Geophysics, chief scientist R.D. Ballard, R/V KANA KEOKI.

*1981 April-May, Survey of a propagating rift tip and hotspot along the Pacific-Juan de Fuca spreading center using Sea Beam, Seattle-Seattle, National Ocean Survey, chief scientist S.R. Hammond, USS SURVEYOR.

1982 June, Deep-Tow/Sea Beam test cruise, Continental Borderland, San Diego-San Diego, Scripps Institution of Oceanography, chief scientist F.N. Spiess, R/V THOMAS WASHINGTON.

**1982 September-October, Sea Beam/Deep-Tow investigation of the Galapagos 95.5°W propagating rift system, Panama-Manzanillo-San Diego, Scripps Institution of Oceanography, chief scientist R.N. Hey, R/V THOMAS WASHINGTON.

**1983 April, Sea Beam investigation of the Easter Microplate, Easter Island-Callao, Scripps Institution of Oceanography, chief scientist R.N. Hey, R/V THOMAS WASHINGTON.

1984 April-May, GLORIA survey of the Southern California Continental Borderland and Baja California Seamount Province within the U.S. Exclusive Economic Zone between the Mexican border and Pt. Arguello, San Diego-Long Beach, USGS/British Institute for Oceanographic Sciences, chief scientist M. Field, MV FARNELLA.

*1984 July-August, Sea Beam investigation of large-scale changes in direction of seafloor spreading, Kodiak-Honolulu, Scripps Institution of Oceanography, chief scientist H.W. Menard, R/V THOMAS WASHINGTON.

1984 August-September, Endeavour ridge dredging program and ALVIN taxi service, Seattle-Seattle, University of Washington/Oregon State University, chief scientist M. Goldfarb, R/V WECOMA.

1984 September, ALVIN/All investigation of the Juan de Fuca spreading center/propagating rift system, Seattle- Astoria, University of Washington/Woods Hole Oceanographic Institution, chief scientist J.R. Delaney, R/V ATLANTIS II, DSRV ALVIN.

*1985 January, SeaMARC II investigation of the Galapagos 95.5°W propagator, Galapagos-Galapagos, Hawaii Institute of Geophysics, chief scientist F.K. Duennebier, R/V MOANA WAVE.

**1985 April-May, ALVIN/All investigation of the Galapagos 95.5°W propagating rift system, Puntarenas, Costa Rica-Acapulco, Scripps Institution of Oceanography/Woods Hole Oceanographic Institution, chief scientist R.N. Hey, R/V ATLANTIS II, DSRV ALVIN.

1985-1986 December-January, Sea Beam/dredging investigation of the Lau back-arc basin, Pago Pago- Tongatapu, Scripps Institution of Oceanography, chief scientist J.W. Hawkins, R/V THOMAS WASHINGTON.

1986 April-May, Sea Beam/water sampling investigation of the Mariana trough back-arc spreading center, Guam-Sasebo, Scripps Institution of Oceanography, chief scientist H. Craig, R/V THOMAS WASHINGTON.

1987 April, ALVIN/All investigation of the Mariana trough back-arc spreading center hydrothermal vents, Guam-Saipan, Scripps Institution of Oceanography/Woods Hole Oceanographic Institution, chief scientist H. Craig, R/V ATLANTIS II, DSRV ALVIN.

*1987 June, Sea Beam survey of AT&T cable routes, Honolulu-Honolulu, Seafloor Surveys International/Scripps Institution of Oceanography, chief scientist D.M. Hussong, R/V THOMAS WASHINGTON.

**1987 October-November, SeaMARC II investigation of the Easter Microplate, Easter Island-Easter Island, Hawaii Institute of Geophysics, chief scientist R.N. Hey, R/V MOANA WAVE.

*1988 October-November, GLORIA survey of the Easter Microplate, Papeete-Valparaiso, British Institute of Oceanographic Sciences, chief scientist R.C. Searle, RRS CHARLES DARWIN.

**1993 February-March, GLORIA investigation of the fastest seafloor spreading center, Papeete-Easter Island, SOEST, University of Hawaii, chief scientist R.N. Hey, R/V MELVILLE.

*1993 April-May, HMRI (SeaMARC) investigation of the Woodlark Basin, Lae-Guam, SOEST, University of Hawaii, chief scientist B. Taylor, R/V MOANA WAVE.

*1993 November, NAUTILE submersible investigation of the Easter microplate, Easter Island-Easter Island, Universite de Bretagne Occidentale, chief scientist J. Francheteau, R/V NADIR, DSRV NAUTILE.

**1998 March-April, Hydrothermal and structural investigations along the fastest spreading center: The 28°-32°S EPR reorganizing plate boundary, using DSL-120 and CTD/SUAVE tows, Easter Island-Papeete, SOEST, University of Hawaii/NOAA PMEL, chief scientist R.N. Hey, R/V MELVILLE.

1999 January, ALVIN biological and geochemical sampling of hydrothermal vents along the fastest spreading center, EPR 31°-32°S, Easter Island-Easter Island, Rutgers University/NOAA PMEL, chief scientist R. Vrijenhoek, R/V ATLANTIS, DSV ALVIN.

**2003 July, High-resolution chirp SUBSCAN seismic reflection survey of Vestmannaeyjar, Iceland, Reykjavik-Heimaey, SOEST, University of Hawaii/ Woods Hole Oceanographic Institution/ Scripps Institution of Oceanography/University of Iceland, chief scientist R.N. Hey, R/S BJARNI SAEMUNDSSON.

*2003 July-August, EM300 survey of Vestmannaeyjar and the Reykjanes Ridge, Iceland, Heimaey-Reykjavik, University of Iceland/ SOEST, University of Hawaii, chief scientist A. Hoskuldsson, R/S ARNI FRIDRIKSSON.

*2005 January-March, DSL-120A, Jason and Alvin investigations of Pito Deep, Easter Microplate, Duke University/ University of South Florida/ SOEST, University of Hawaii/Scripps Institution of Oceanography, chief scientist J. Karson, R/V ATLANTIS, DSV ALVIN (I was co-Chief Scientist in charge of the Alvin magnetometer investigations).

**2007 June-July, Seabeam, magnetics, and gravity survey of the Reykjanes Ridge south of Iceland, Reykjavik- Reykjavik, SOEST, University of Hawaii, chief scientist R.N. Hey, R/V KNORR.

***2013 August-September, EM122, magnetics, and gravity survey of the North Atlantic seafloor spreading reorganization near the Bight transform fault, Reykjavik- Reykjavik, SOEST, University of Hawaii, chief scientist F. Martinez, R/V Marcus G. Langseth.

Chief Scientist (PI and Virtual Chief Scientist on 2013 Langseth expedition)

*Co-Chief Scientist